Columbia River Crossing Project

Traffic and Tolling Analysis Summary

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Olympia, Washington
April 20, 2005

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Vollmer Associates LLP

- Gerry Nielsten, Principal, New York City
- Vollmer one of few firms recognized by bonding companies for performing investment grade tolling analysis in the United States
- Phase II analysis for CRC is “less than investment grade”

CRC Tolling Study Scope of Work

- Review Traffic Analysis
- Identify and prepare tolling model
- Identify toll rate structure and collection options, including Electronic Toll Collection (ETC)
- Evaluate toll alternatives and provide traffic and revenue

Basic Elements of a Tolling Study

- Regional model basis for traffic without tolls
- Toll model predicts new traffic with tolls
  - Assumptions made on percentages of HOV and trucks.
  - Assumptions include toll rates for different users and percentage using ETC
- Toll model predicts toll revenues

CRC Tolling Assumptions

- Feasibility analysis assumes:
  - If only I-5 is tolled, tolls would be collected in both directions for all vehicles crossing on I-5
  - If both I-5 and I-205 are tolled, tolls would be collected in one direction on all vehicles crossing the Columbia River

What Tolling Options Were Studied?

- Analyzed the possibility of several toll options:
  - Uniform toll rates for SOV, HOV, trucks with and without time of day differentials
  - Vehicle class tolling differentials with and without time of day differentials
  - Loyalty, HOV and ETC discounts
  - Toll escalation rates

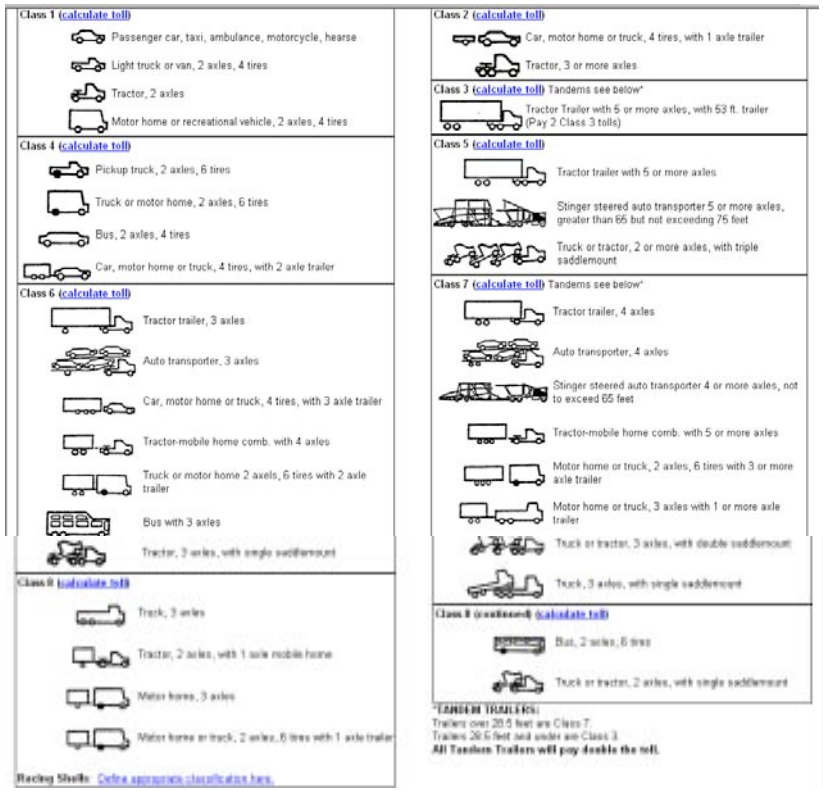
Possible Toll Rate Policies

- Passenger Cars
  - Vehicle occupancy
  - Frequent user discount
  - ETC discount
  - Time of day variations
  - Toll escalation

- Commercial Vehicles
  - Vehicle classification
  - Frequent user discount
  - ETC discount
  - Time of day variations
  - Toll escalation

Vehicle Class Rate Differentials

- Commercial vehicles
  - Larger vehicles pay higher tolls
- Differentials based on
  - Visual
  - Weight
  - Axle



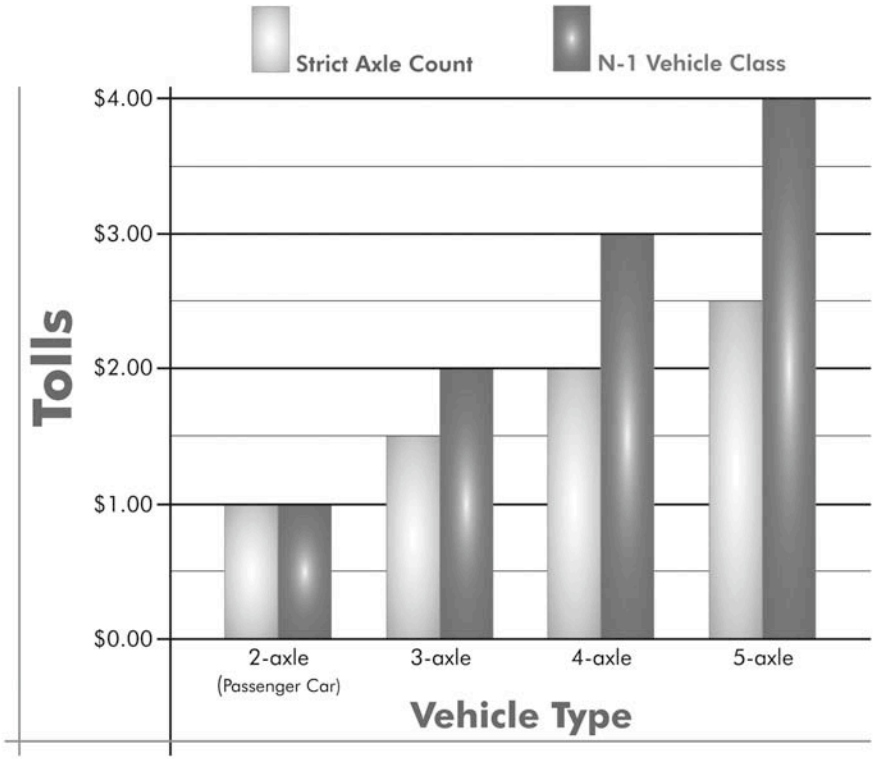
NYSTA Visual Classifications

Truck Tolls

- How it might work - if the car toll is $1.00 then the “per axle” toll is 50¢

  Strict Axle Count
  - Multiply number of axles times **“per axle” toll**.
  - Example: 5 axle truck pays 5 x **50¢** = $2.50

  “Axles minus 1” (or “N-1”)
  - Multiply one less than the number of axles times **full car toll.**
  - Example: 5 axle truck pays 4 x **$1.00** = $4.00



Possible truck tolling scenarios

Electronic Toll Collection (ETC)

- Several ETC Options Available
  - High speed collection
  - Toll plaza collection
  - License plate look-up with no transponder

- CRC Project Assumptions
  - ETC would be available with a mix of high speed and toll plaza collection
  - Transponders required for ETC
  - Manual toll collection would also be available for cash-paying customers

Discounts for ETC Customers

- Discounts encourage early ETC use

- Higher ETC market share increases the toll plaza throughput
  - High speed ETC = 2,000 vehicle per lane/hour
  - Toll plaza ETC = 1,200 vehicle per lane/hour
  - Manual collection = 200-400 vehicle per lane/hour depending on toll (full dollar amounts faster than odd coin amounts)

- CRC Project Assumptions
  - 15% car ETC discount
  - 15% truck ETC discount
  - 100% transit bus ETC discount
  - 50% HOV-3+ discount for ETC customers

- Alternative: No ETC Discounts

Toll Escalation Rates

- CRC evaluation assumed a 3% annual inflation rate with $0.25 increments.

CRC Tolling Assumptions Summary

- Vehicle Classification
  - Truck rates are “axle minus 1” (N-1) times the passenger car toll
- Manual toll collection, as well as high speed and toll-booth ETC will be available
- ETC Discounts to encourage use
  - 15% car ETC discount
  - 15% truck ETC discount
  - 100% transit bus ETC discount
- 50% HOV-3+ discount applied to ETC customers
- 3% Annual inflation applied in $0.25 increments

Tacoma Narrows Bridge Tolling Assumptions

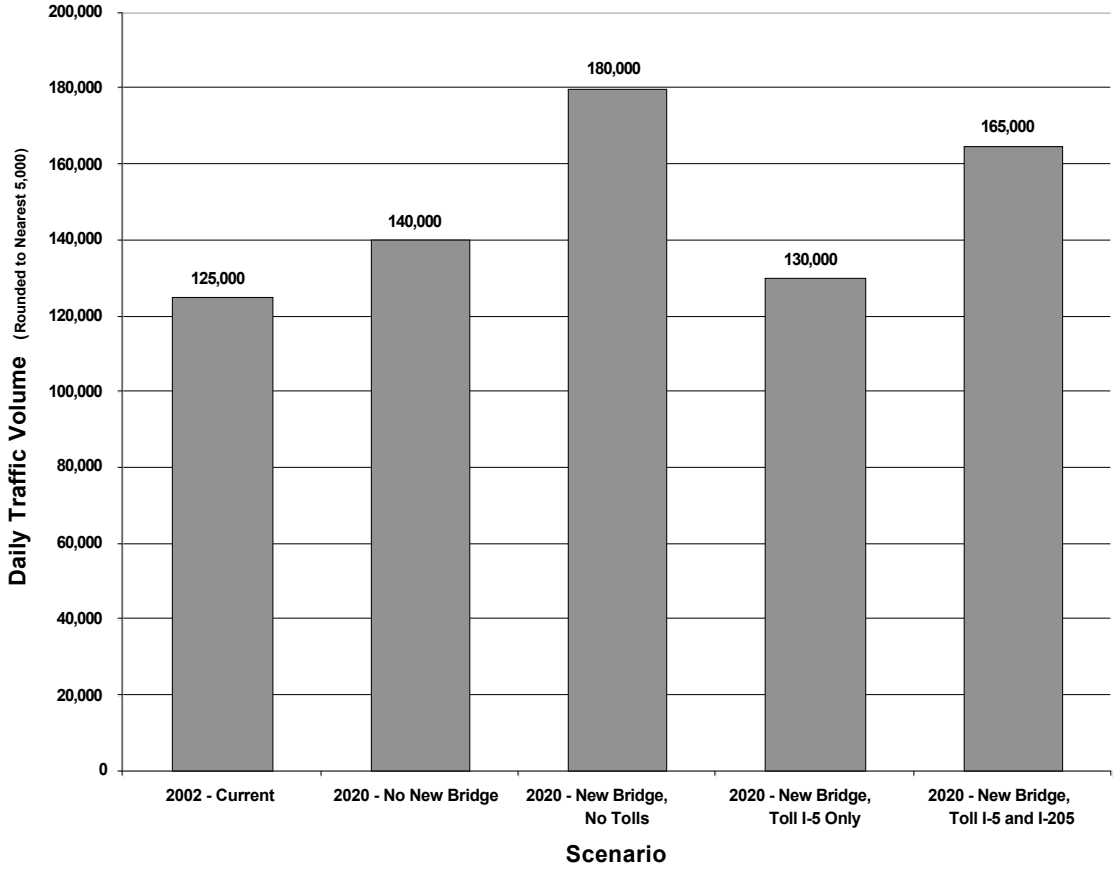
- Vehicle Classification
  - Per axle charge: At $3.00 toll, each axle is charged $1.50. A five-axle truck pays five times $1.50 or $7.50
- ETC and HOV Discounts to be studied
- Opening day $3.00
  - Raise $1.00 every four years to a maximum of $6.00
  - Caveat: Law requires sufficient revenue to repay bonds – tolls may be adjusted to meet requirement
- ETC forecast share 55% opening day

Toll Revenues Using Tacoma Narrows Bridge Assumptions

- Revenues do not change very much
  - CRC assumptions yield lower revenues from ETC users because of discounts
  - CRC assumptions yield higher revenues from commercial vehicles because of higher rates

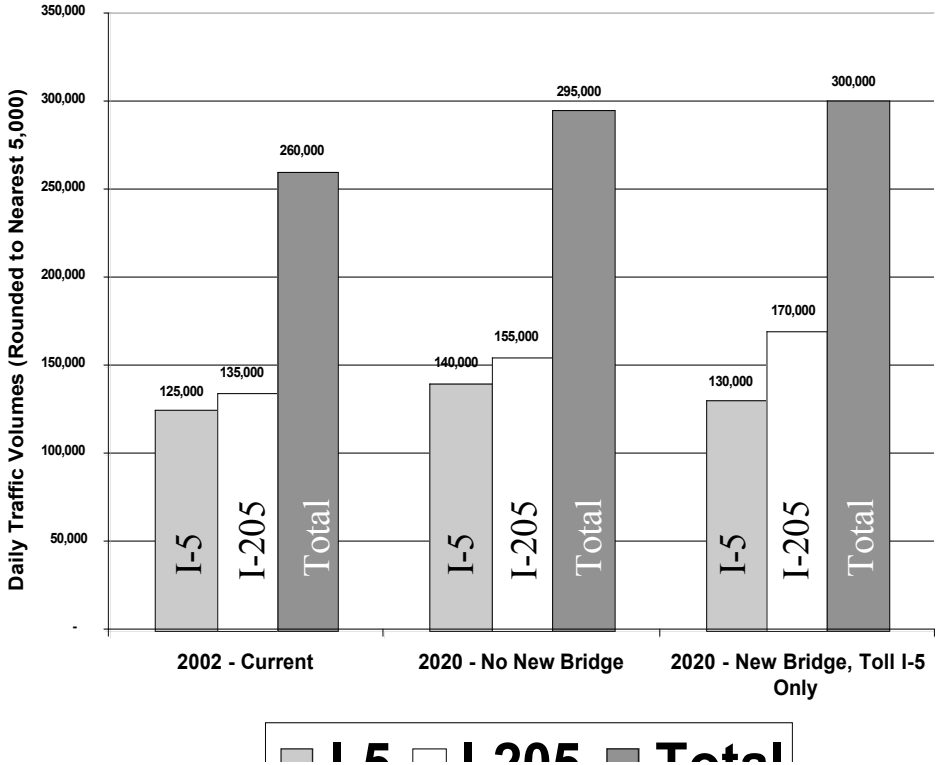
I-5 Traffic

- Daily Traffic Volumes for Possible Tolling Scenarios



Toll I-5 Only Scenario Traffic

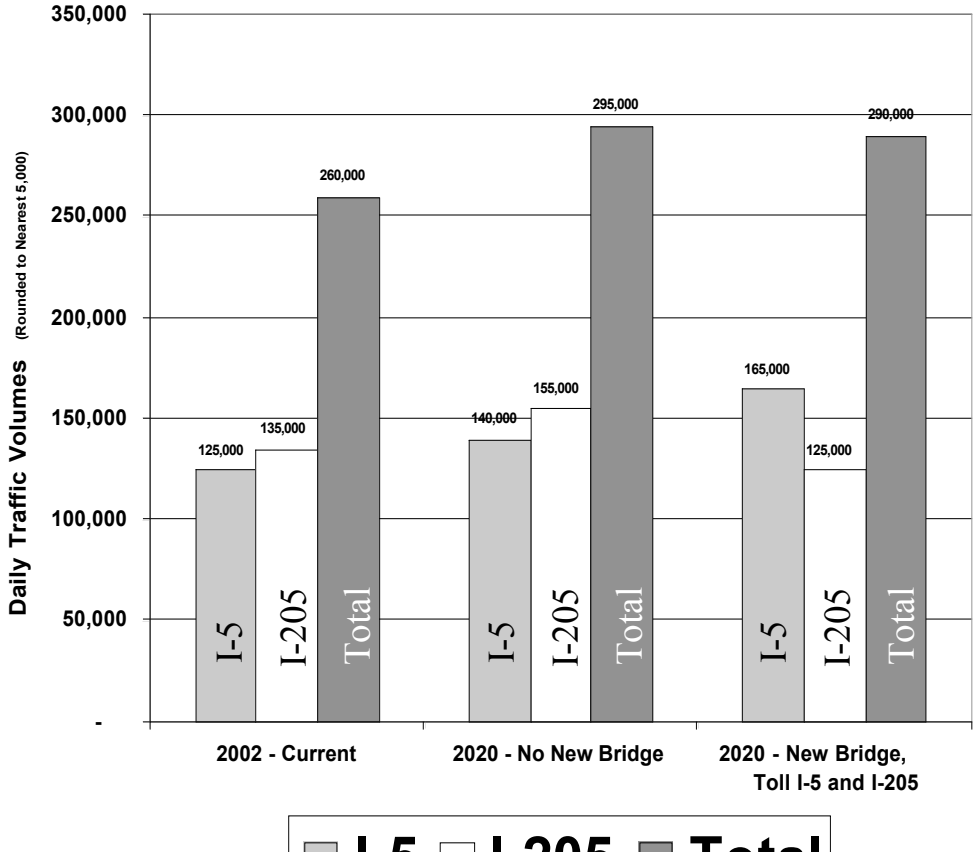
- Assumptions
  - Build New I-5 Bridge
  - Toll I-5 Bridge
  - I-205 Bridge stays toll free
- Results for I-5
  - Tolled traffic on I-5 is less than toll free traffic if the bridge had not been built
- Results for I-205
  - Toll-free traffic on I-205 is more than if the I-5 bridge were toll free and expanded



Daily Traffic Volumes for Tolling I-5 Only Scenario

Toll I-5 and I-205 Scenario Traffic

- Assumptions
  - Build New I-5 Bridge
  - Toll I-5 Bridge and I-205 Bridge
- Results for I-5
  - Tolled traffic on I-5 is more than toll free traffic if bridge had not been built
  - Tolled traffic on I-5 is less than toll free traffic
- Results for I-205
  - Toll traffic on I-205 is less than toll free traffic if the bridge had not been built
  - In 2020, tolled traffic on I-205 is less than toll free traffic today



Daily Traffic Volumes for Tolling I-5 and I-205 Scenario

CRC Projected Revenues

- Assumptions
  - Car toll in one direction is $2.00 in 2004 dollars; therefore car toll is $2.75 in 2013
  - Toll escalates in even 25¢ increments at 3% inflation rate

Annual Projected Revenues
($ Rounded)

	Toll I-5 Only *(Toll one bridge - northbound **AND** southbound)*	**Toll I-5 & I-205** *(Toll two bridges - northbound **OR** southbound)*
2013	$125 million	$140 million
2020	$150 million	$170 million

Conclusion

From a revenue projection standpoint, tolling is a feasible option for further consideration in the environmental phase of this project.